Impact of Overemphasis of Technology on Information Literacy Program: A Study

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Abstract - **The Literature on Information Literacy often assume that there is some inherent relation between Information Literacy and Information Technology and the concept of information literacy has been developed to meet the challenges generated by Information Technology in the form of Information Explosion. Such assumption also reflected in Information Literacy programs which are offered in the academic institutions. This paper argues that the concept of Information Literacy has been in use before the Information Explosion and it should be treated as an ability to understand the intricacies of information, as a tool for lifelong learning and a skill to use information effectively rather than giving more emphasis on technology,which can only make a computer literate who may be expert in using computer, but may not be able to evaluate and use the available information effectively.**
Keywords: **Information Literacy, Computer Literacy, Lifelong Learning, Information Technology**

I. INTRODUCTION

The literature on Information Literacy often assumes that the need for Information Literacy arose due to Information explosion triggered by Information Technology. Such assumptions reflected in the Information Literacy program offered in academic Institutions.Today in the 21st century, the people's mindset are so much in the influence of technology, they see their existence with the use of technology. The daily routine of the people starts and ends with technology. Moreover, with the fusion of science and technology, enable technology to become more expressive, more closely to people and more useful. Due to such characteristics of technology, Denial Bell (a sociologist) characterized technology as "Intellectual Technology". No one can deny the role of technology in the rapid increase in the production and dissemination of information but we will have to understand that technology and information are two separate entities. The expertise in one entitycan't be a guarantee of expertise in other too. Paul Zurkowski initiated the term Information Literacy with this right intent to make the best use of information for the empowerment of people in all walks of life. The Information Literacy Program having the potential of being the most impactful program of the Library. But with the overemphasis on technological aspect of Information Literacy, the Library is diminishing the social, economic and educational impact of IL. In the name of Information Literacy, the Libraries are trying to make learner familiars with different form and expressions of Information Technology. Frequent use of the web may improve computer skill, may build confidence in finding some useful information, but it may not improve critical thinking of learner. Due to such diminishing role of Information Literacy, we are not able to see the larger impact of IL Program. According to the report titled Author Perspectives on Academic Publishing, Global Survey Report 2018, 25% researchers worldwide have poor understanding of plagiarism. (Source: The Assam Tribune 30th Nov 2018). This is the figure of Scholars, what we can say about the other general student. As Galileo Galilei said "you cannot teach a man anything, you can only help him find it within himself". The concept of Information Literacy came into existence with such right intent to make people realize their meaningful existence in the world. It is a set of skill which has been instilled into a learner and enables them to face different challenges posed at the social, economic, educational and professional level, This paper looks Information Literacy as an independent concept whichhas been evolved as a skill to empower people, argue to look Information Literacy and Computer Literacy as two separate sets of skill, a call to restructure information literacy program according to the objective of Information Literacy.

A. Impression of Technology on Information Literacy

Technology has been always associated with all aspect of the library. When we talk about the future of Library, we will have to take account the future of Information Technology. What technological developments in the world at large may have an impact on Library. (Burke, John J. 2006). The misconception of using technology in deliveringInformation Literacy Program has been partly created by available literature on IL and partly by ongoing a wave of digital transformation.

1. The Literature on Information Literacy

It is the assumption of most of the writers on Information Literacy that the invention of the term Information Literacy to meet the needs of Information Explosion triggered by Information Technology. Information Explosion is a situation in which we face the rapid increase in the amount of information and itcreates a very perplex situation for a learner to choosethe right information from the flood of information. It is the assumption of some authors that the term Information Literacy came into existence as a response to organize and manage to such flood of Information. However the term Information Literacy was first introduced

to the world by Paul Zurkowski in 1974 before the advent of WWW. We found that the period between 1980 to 2000, this had been a period of technological transformation. A new kind of information technology had been taking place in society. In 1982, the IIA produced a four volume survey of the information infrastructure of the United States. The survey found that those who were aware ofabout how and when one should use technology, when in a better position to accesses knowledge resource in comparison to others who don't know .The new technologies of the decade had come to be recognized as an important feature of Information Literacy. In the same year, Time magazine choose the computer as a machine of the year. (Behrens, Shirley, 1994).

The final report on Information Literacy came outin 1989 by theAmerican Library Association. Only after this report, the term InformationLiteracy got its space in books and articles in professional journals .The advent of World Wide Web in 1990 provides a big platform for technology to bloom. The coincidence of occurrence of both the incidence, the publication of final report and advent of the World Wide Web happened one after another. It gave an idea to writers to see the term information literacy and technology in the interwoven way. (Graftein, A. 2007). In a white paper prepared for UNESCO, the United National Commission on Libraries and Information Science (NCLIS) and the National Forum on Information Literacy mentioned that technology has such a big impact on the nature and content of information that Information Literacy is almost indistinguishable from ICT Literacy. (Ibid, 2007). In late 1990, the United Kingdom based SCONUL; seven pillars model organizes the major element of information literacy into seven major strands. The seven pillars models bolstered by two skill sets-basic library skills and IT Skills. (Gibson, Craig, 2007). Further, the FITNESS report of 1999 (Fitness is the acronym Fluency with Information Technology) called for education and training on the foundational concept of Information Technology. (Ibid, 2007)

2. Impact of Information Technology on Library

The infinite expansion of the digital universe also included the library under its purview. It has become the need of the hour to stand against the threats posed by information explosion in different form and format. It has burgeoned to such an extent where it may sideline the library and information science. (Yadagiri, S & Thalluri, PVS 2012). Can we do better? This question has always been a source of motivation for library professional. Computer and network have changed the ways in which people communicate with each other. It is expected from a library that a scholar can be better served by sitting at a personal computer connected to a communication network than by making a visit to the library. Information once available only to the professional is now directly available to all. From a personal computer, the user is able to consult materials that are stored on computers around the world. (Arms, William Y., 2000) To fulfil such expectation, the library started to provide remote access facility to users, so

that they can use all the resources of the library at their desktop. It also motivated to Library Professionals to provide information literacy instruction via the internet. (ERIC Development Team, 2002). Further, in spite of the ready availability of information in electronic form, the user feels difficulty in accessing the information ina network environment. For this reason, the library initiated the Information Literacy program focusing on technology to make them familiar with different forms and expressions of technology to access the information resources. (Graftein, A. 2007)

3. Wave of Digital Transformation

Always on, always available, always enabled-this is the world of Generation C (Connected). Computers, internet, mobile phones, texting, social networking are an integral part of the world. These technologies are capable to transform the way this generation works, entertains, collaborates, consumes and creates. It is the prediction of experts that 26 billion or more sensors and devices will be connected to the internet by 2020. It will create an era of machine intelligence. To accommodate and prepare for such situations, building digital skill is as essential as digital infrastructure. This has been recognised as UNESCO's Sustainable Development Goal 4 (SDG4). In India, the government launched Digital India in 2015 to digitally empower every citizen.A recent report by the Digital Empowerment Foundation indicates that 30% of our population lags on basic literacy and thrice that of Digital literacy.The inevitable and rapidly evolving human machine relationship will mean that either we are driven by technology or that we drive the change. Therefore, it has become imperative for institutions, organizations to develop a framework to navigate this change. (Financial Express, 24/9/2018)

II. LITERATURE REVIEW

Shirley J. Behrens (1994) explored the development of Information Literacy as a concept and present the chronological extensions in the meaning of the concept. They identified the range of skill and knowledge required for information literacy has expanded over the last two decades in order to fulfil effective information handling. Ann Grafstein (2007) in his article urges that the basic concept of Information Literacy predate and largely independent of the new information environment. It explained the amount of link between Information Explosion and Information Literacy. They advocated fostering critical thinking through Information Literacy. Further, a study was undertaken by Pask, Judith M. & Saunders E. Stewart (2004). This study uses data from a survey of computer and information skills to determine whether or not these skills are separate entities. A factor analysis of the data supports the assumption that the two skills are different. Jacobs, Heidi LM &Selinda, Berg (2011) suggest to broadening the scope of Information Literacy. They suggested that Information Literacy's scope should go beyond the walls of our libraries and

librarian'sroles are not to just fill students to work with a generic set of skill but rather that we engage with students to work toward a shared and active role in critical thinking and critical action related to information.

III. PROBLEM STATEMENT

The Literature on Information Literacy looks the need for Information Literacy as a response to Information Explosion triggered by Information Technology. It also misjudges the right intent of Information Literacy by emphasizing mainly on the technological aspect of information literacy.

IV. METHODOLOGY OF THE STUDY

This study based on a review of different forms of secondary sources which mainly focus on Information Literacy. All the related literature has reviewed and analyzed to find out to what extent the technology should be used in the Information Literacy Program. The historical evidence of Information Literacy as a concept, reviewed to see the range of role of technology in Information Literacy and analyze to differentiate the computer and information literacy as a two separate set of skill.

A. TheDistraction of Information Literacy Program

Keeping in mind the above issues, the information literacy programme has been offered in academic libraries. In offering such program, no distinction is made between ability to find information and ability to evaluate information, which has been the core value of information literacy. Information Literacy education programme are merely focuson finding and locating information and don't give proper attention on how to critically evaluate, use and share information. No adequate attention has been given to relating the information to their workplace, course and assignment or making a connection with the context. (Bruce, Christine, 2012).

Followings are the indication of distractions of Information Literacy program

1. Overemphasis on Technology Can Limit the Scope of Information Literacy Program

President Barack Obama declared October 2009 to be National Information Literacy Month and proclaimed that "an informed and educated citizenry is essential to the functioning of our modern democratic society". Similarly, Alexandria Proclamation 2005treats Information Literacy as a tool to empowerment of people. These two documents are reminders of the broader social context of IL. As against this broader social context of IL, we find that the frequent use of technology focused instructions in Colleges and Universities. As Whit worth articulates that such technical aspect has damaged the Information Literacy's ability to be treated as broader social context. The subject of Information Literacy is social and we are treating as technical. There is a need to connect information literacy with a larger social, educationalcontext. (Jacobs, Heidi L M & Berg, Selinda,

2011). Library should broaden Information Literacy's scope beyond the walls of library and Librarian can play an important role not only in developing generic set of skills but also engage with students to work towards shared and active role in critical thinking and critical action related to information in broader social, political and economic context. (Ibid, 2011).

2.Inclination towards Online Information Literacy Program

Keeping in mind the choice of users, it has become an objective of each library to provide remote access facilities. With an increase in remote access to information and demand for more anytime sharing information, many academic libraries have also started to offer Information Literacy Instruction via the internet. The most common online instructional tool is the web based guide (pathfinders, portals) etc. Another trend that has gained popularity thatis the information literacy tutorial, which is an interactive web based programmes designed to introduce the student to general information literacy concepts and information resources. These tutorials sometimes replace or supplement in person library instruction session. However, an online tutorial is helpful in many ways to student, faculty and librarian but they are criticized for being tedious and text heavy and presented as standalone lesion, disconnected from courses and assignment, lacking sufficient interventions to create an adequate active learning experience and not relevant to student expectation. (ERIC Development Team, 2002).

3. Information Literacy Program Treating As a Substitute to Library Orientation

We also witness that there are some libraries that treats Library orientation and Information Literacy in the similar way. In Thailand Universities Libraries,the recent changes in networking technology have shifted focus of librarian to use internet and intranet to teach library use and information literacy instruction through remote access. The purpose of teaching over website is to supplement library instruction and not as a replacement of traditional instruction. No additionalchanges has done in the design of Information Literacy Instructions. They adopted because to reach a large number of student with a limited instruction staff. (Pawinun, Prapat & Asundi, A.Y. 2002)

4. Technology Not Suitable In Empowering People

Technology has some limitation. We can't feel or taste the beauty of tangible things through the use of technology. Due to overuse of technology in each aspect of Information Literacy, in fact we are diminishing the impact of IL. We can seethe negative impression of IL through this recently published report. The Global Survey Report 2018indicates that 25% researchers worldwide have poor understanding of plagiarism. (The Assam Tribune 30th Nov, 2018). Now it has become proved fact that technologies may be good at performing tasks that follow explicit codifiableprocedure that is a routine task. May be good in storage and

dissemination of information butdoing the research, maintaining personal relation and designing new products have proven hard to automate. It is also found thattechnology is even moving into areas once thought to be the exclusive domain of human such as driving and writing news article. Digital technologies might be effective in some areas but it has been often failing to empower citizen. (World Development Report 2016)

5. Focus on Carrier of Information Not On the Content

The objective of Information literacy has been to capitalizethe transforming power of information by converting them into a resource which will empower to people to face the challenges in all walks of life. Instead of focusing on the core value of Information Literacy, Libraries are focusing on the means by which it is accessed or the format in which it is packaged. (Graftein, A. 2007). Elmborg, James (2006) argues that "Libraries must focus less on information transfers and more developing critical consciousness in students".

6. Emerging Trend of Fake News

With the increasing use of technology, the parallel campaign of fake news is going on to misguide the people from the right information. Recently, Educase a professional organization, has addressed the blended nature of research and information skill in a digitally intense world with social networking, RSS feeds, face book and MySpace, blogs, wikis and other ubiquitous technology in student life's through a series of white paper. These paper identified the need for today's student to use critical thinking to evaluate information and data whatever its sources and discuss the challenges in learning to be thoughtful and ethical in an information rich environment. (Craig, Gibson, 2007)

7. Technologies Are Bound To Change

The training on technology is always provisional. Once achieved, it can't be a guarantee for ever. If you don't remain update with changing the form of technologies, there is a chance tore-enter into information illiteracy position.Digital literacy is an ongoing and dynamic process. (Martin, Allan & Madigan, Dan, 2006)

V. INFORMATION LITERACY INITIATED

Information is not knowledge, it is concept or ideas which enter a person's field of perception are evaluated and assimilated reinforcing in changing the individual concept of reality or ability to act. Such ability enhances the capability of the person and also enrich the value of information. People trained in the application of information resource to their work can be called information literate. (Zurkowski).Through this definition, Zurkowski suggested that Firstly, Information resources are applied in work situations, Secondly, Techniques and skills are needed to use information tools and Thirdly, Information is used in problem solving. (Behrens, Shirley J., 1994). Information has abundance power to convert noneconomic resources to

economic resources. Information Literacy can be a medium to capitalize the power of Information. Information Literacy also has a massage to library professional that "Knowledge for All".Information Literacy can be proved a medium to bring democratization of knowledge. No one should be deprived from such a precious resource. Christine Bruce also described Information Literacy as the ability to locate, manage and use information effectively for a range of purpose. As such, it is an important generic skill which allows people to engage in effective decision making, problem solving and research. It also enables to take responsibility for their own continued learning in areas of personal and professional interest. (Bruce, Christine 2012).

As we know that information comes in many different format. Sometimes even a tweet could be valuable, worthless or fun. It means that information content, context and quality matter more than what kind of package or format the information takes. The SCONUL seven pillars of Information Literacy developed in United Kingdom reflect today's information world. The pillars are:

1. Identify-Understanding your information need.
2. Scope-Knowing what is available
3. Plan-Developing research strategies
4. Gather-Finding what you need
5. Evaluate-Assessing your research process and findings
6. Manage-Organize information effectively and ethically
7. Present-Sharing what you have learned

Each of the seven areas incorporates both abilities and understanding. The abilities include what an individual can do. The understanding covers both attitude and behaviour. The combination of abilities and understanding enable one to be information literate. (Bobish, Greg & Jacobson, Trudi (ed), 2014). It is rightly said about IL "Information Literacy enables people to move from dependence on knowledge workers to become knowledge builders "(Catts, R. & Lau, J. 2008)

VI. ROLE OF LIBRARY

With the introduction of ICT in libraries, the people's perception aboutthe library has changed. The people are facing a tremendous wave of Information Explosion at day to day basis. In the parallel way, a disinformation campaign is also going on to mislead the people towards wrong information. It is a campaign of fake news. Rajyavardhan Rathod (Union Minister of Information and broadcasting, GOI) labelled fake news as a national threat. (Source, Times of India, 28/09/2018). The Library is ata good position to bring awareness in people by making and preparing them information literate. The library needs to understand the gap between the library and user's information need. To bridge this gap the Library should design such kind of Information Literacy Instruction Program in which there is a space to educate people themselves and to acquire a new skill to comprehend the intricacies of information. Before providing any other training, such as how to search the books, periodicals or websites, Library needs to teach them about

information, what is it? How is it created? Where is it stored? (Swanson, Troy A., 2004). The librarian needs to create and develop a tendency among student to see the thing in acritical way.It is expected from student to see any subject from multiple view points as opposed to a textbook, which offers only the view of the author. The student should draw out own conclusion by applying critical thinking. In this way, it will develop them to become an independent learner. Similarly, it is the duty of the Reference Librarian to not to provide a readymade answer to the user. Instead of providinga readymade answer, they should help them in finding the answer to his own question. They should show how to find the desired material. By applying such practices in the library, the right intent of Information Literacy can be achieved.

VII. FINDINGS OF THE STUDY

The beginning of publication of literature on Information Literacy and the emergence of new technology have been parallel to some extent.This coincidence shaped the thinking of writers to see the term Information Literacy and Technological Literacy in the interwoven way. As a practical, we can see the reflection in the offering of Information Literacy Program in academic Institutions.

The negative impact of overemphasis on technology can be seen in academic institutions. In an online mode of delivering Information Literacy Program, student finds himself in a standalone position. It doesn't offer adequate space to interact with the system, not shows the way to connect to information with context. Even Information Literacy Tutorial, which is an interactive web based design, criticised for being tedious text, not related with courses and assignment and the most importantly lack of sufficient intervention which is essential to create an active learning experience. As a result the expected outcome of Information Literacy Programme has not been realised till date. The worst situation is that 25% Researchers worldwide unaware, confused about what is plagiarism.

We will have to understand that there is some limitation of technology too. Technology can be useful in data processing where routine types of work happen at daily basis, can store large information and disseminate information instantly but it can't be prove good as a medium to empower people. The World Development Report 2016 also supports this view that digital technology can be effective in the routine type of work. It has been failed in empowering citizen.

Information can be turned into a resource when it is provided to right user at right time. Otherwise, it would be only a raw data. And the turning of information into a resource can be possible when we are able to understand the intricacies of information.Through proper implementation of Information Literacy Program, it can be processed to turn into resource. Further, such a precious resource should be available to each and every individual. For democratization of knowledge and the great objective "Knowledge for All" can be achieved through Information Literacy Program. For

this happen into reality, Information Literacy Program should come out from the boundary wall of Library.

It has been also found that there are some libraries thattreat Library orientation and Information Literacy in an equal way. In delivering Information Literacy instructions, they mainly focus on what kinds of available resources they have, what are the library services, how to search and locate books but never focus on how to generate information, what is good and bad information and how it become useful. We will have to understand that both are two different programs and have different objectives. Treating equally means restricting the scope of Information Literacy.

To inculcate or to develop any skill or habit, it takes time. For inculcating Information Literacy into a student, Librarian needs to create a space where student can develop a tendency to see the information in a critical way. Student should have an approach to look any particular subject from multiple viewpoints. They should not only confine to textbook view which offers only the view of the author. Similarly, instead of providing readymade answer to student by the Reference Librarian, they should only help them finding the answer. Information Literacy Instruction Program should be designed in such a way, where there is a space of independent learning.

Further, we should see Information Literacy in a broader social context. It can be proved as a tool to empower people. Information Literate Persons always be in advantageous position in comparison to Information Illiterate Person. In today's world, the person who is able to understand the need of information, able to know the exact location ofneeded information, whether this information is authentic or not, able to use the same information in appropriate way and also able to share the same, are the most resourceful and empowered person. In the same fashion, it will also prepare a way for lifelong learning.

VIII. CONCLUSION

Information is not knowledge. Information without transformation is only raw data. The use of information requires a mastery over cognitive skill, critical thinking. And this is turn depend on the ability to locate, evaluate and then use information. The initiation of Information Literacy program happens to inculcate such a habit in the learner. It is expected from educated person to acquire knowledge of the self, Knowledge of the World around him and knowledge of potential careers as well as being willing to commit lifelong learning. Information Literacy program has the ability to prove as the most impactful program of the Library. To see the emerging trend of fake news. It has becoming very much essential to people to be equipped with the different facet of Information Literate. Further, we also need to see Information Literacy Program in a broader social context. It is also essential that the IL program should come outside from the boundary wall of the Library so that no one should be deprived from this precious resource. It is the fundamental duty of the entire knowledge stock holder

to distribute such precious resource equally to each and every person. As far as the use of technology in the Information Literacy Program is concerned, we need to understand that people can be Information Literate in the absence of ICT skill. But to see the volume and variety of digital information, it has become prerequisite to being familiar with ICT applications. But at the same time, one should also aware about the limitation of technology.

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